

ITEM	DESCRIPTION	UNIT
637001-*	WATER FOR DUST PALLIATIVE	THOUSAND GALLON (THOUSAND LITERS)

\* Sequence number

## SECTION 638

### PROJECT MARKERS, RIGHT-OF-WAY MARKERS, AND SURVEY MARKERS

#### 638.1-DESCRIPTION:

This work shall consist of furnishing, and placing or installing at the points designated on the Plans or by the Engineer, metal (signpost) project markers, right-of-way markers, and concrete survey markers, in accordance with these Specifications and in reasonably close conformity to the lines, grades, dimensions, locations, and sections shown on the Plans or established by the Engineer.

#### 638.2-MATERIALS:

Right-of-way Markers shall consist of # 6 (# 20) deformed reinforcing steel bars meeting the requirements of AASHTO M 31 and caps provided by the Division. Materials for project markers shall conform to the requirements specified on the Plans. Survey markers shall be constructed of concrete conforming to 715.12 or 715.19.

Survey Markers constructed without reinforcement shall contain sufficient steel near the top to provide magnetic detection.

## CONSTRUCTION METHODS

#### 638.3-RIGHT-OF-WAY MARKERS:

**638.3.1-Right-Of-Way Marker Installation:** Markers shall be set plumb and to a minimum depth of 36 inches (1 meter) and shall be flush to the ground. When rock is encountered in areas of proposed markers, they shall be grouted to a depth of 18 inches (0.5 meters) into the rock. Right-of-way markers shall be installed at points designating the right-of-way boundaries and at each break in the right-of-way line as shown on the Plans or as directed by the Engineer.

**638.3.2-Installation:** Markers shall be set plumb and to the depth shown on the Plans. The holes shall be backfilled with suitable material and thoroughly tamped.

Right-of-way markers shall be set at points designating the right-of-way boundaries and at each break in the right-of-way line as shown on the Plans or as directed by the Engineer. Right-of-way markers shall be accurately set to the mark given by means of intersecting strings. If approved by the Engineer, other

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equally accurate methods may be substituted.

**638.4-CONCRETE SURVEY MARKERS:**

Survey markers shall be installed where indicated on the Plans or as designated by the Engineer. When locations for survey markers conflict with other construction, the survey markers shall be offset as directed by the Engineer.

Precast concrete markers shall be set plumb and to the depth shown on Plans. Installation shall be backfilled with suitable material and thoroughly tamped to obtain a very rigid installation. If a manufactured point on the bronze casting does not coincide with the survey point after installation, it shall be filed and the actual survey point shall be center punched and outlined by a cross.

**638.5-METAL (SIGN-POST) PROJECT MARKERS:**

Project markers shall be constructed in accordance with details and requirements on the Plans.

Project markers shall be placed at the beginning and end of projects, on the right side of the road or highway at the points designated by the Engineer. Project markers shall be located at the maximum practical distance not to exceed 30 feet (10 meters) from the edge of the pavement without obscuring or detracting from the effectiveness of other official signs. Project markers shall be driven in place, plumb and to the depth shown on the Plans. Defective or damaged markers will be rejected.

**638.6-METHOD OF MEASUREMENT:**

The quantity of work done will be the actual number of "Project Markers", "Right-of-Way Markers", or "Survey Markers", complete in place and accepted.

**638.7-BASIS OF PAYMENT:**

The quantities, determined as provided above, will be paid for at the contract unit prices bid for the items listed below, which prices and payments shall be full compensation for excavating, backfilling, disposing of surplus material, furnishing all the material and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

**638.8-PAY ITEMS:**

ITEM	DESCRIPTION	UNIT
638001-*	PROJECT MARKER	EACH
638002-*	RIGHT-OF-WAY MARKER	EACH
638003-*	SURVEY MARKER	EACH

\* Sequence number